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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,776	08/08/2006	Akihiro Goto	Q95045	4644

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
DANG, KET D	

ART UNIT	PAPER NUMBER
4118	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/588,776	GOTO ET AL.	
	Examiner	Art Unit	
	KET DANG	4118	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/08/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 9 & 16 are objected to because of the following informalities: In claims 9 & 16, the "either one of copper and iron" phrase is not proper. It is suggested to rephrase as "either one of copper or iron". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8, 13, 14, & 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 8, 13, 14, & 15, "to generate a pulse-like discharge in" phrase is unclear to the examiner what this is referring to. The examiner interprets it as "to generate a pulse-like discharge in a working fluid".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 8-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori N. (JP 07197275 A).

6. Regarding claim 8, Mori discloses a resistance welding electrode comprising (Paragraph 1): a first layer of a metal-carbide film that is formed by carbonizing of an

electrode material on a surface of the resistance welding electrode by applying a voltage between a powder molding obtained by heating the powder molding in a working fluid and the resistance welding electrode, to generate a pulse-like discharge in a working fluid (Paragraph 11); and a second layer obtained by forming a film consisting of mainly iron on the first layer (Paragraphs 8 & 32).

7. Regarding claims 9 & 10, Mori discloses wherein the resistance welding electrode consists mainly of copper (Paragraph 14); and wherein the second layer is formed on the first layer by chemical vapor deposition (Paragraph 8) or a method of generating the pulse-like discharge by applying the voltage between a powder molding obtained by molding a metal-based powder and the resistance welding electrode in the working fluid (Paragraph 11).

8. Claims 11 & 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori N. (JP 07197275 A).

9. Regarding claim 11, Mori discloses a method of manufacturing a resistance welding electrode, the method comprising: forming a first film of metal carbide that is formed by carbonizing of an electrode material on a surface of the resistance welding electrode (Paragraph 1), the forming including disposing the resistance welding electrode in a working fluid (Paragraph 11); applying a predetermined voltage between the resistance welding electrode and the powder molding, to generate a pulse-like discharge (Paragraph 26); and forming a second film consisting mainly iron on the first film (Paragraphs 8 & 32).

10. Regarding claim 12, Mori discloses wherein the second film is formed on the first film by chemical vapor deposition (Paragraph 8) or a discharge surface treatment method of generating the pulse-like discharge by applying the voltage between a powder molding obtained by molding a metal-based powder and the resistance welding electrode in the working fluid (Paragraph 11).

11. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Mori N. (JP 07197275 A).

12. Regarding claim 13, Mori discloses a resistance welding apparatus (See drawing #2) comprising: a resistance welding electrode including a first layer of a metal-carbide film that is formed by carbonizing of an electrode material on a surface of the resistance welding electrode by applying a voltage between a powder molding obtained by molding a powder consisting mainly of a metal powder that is likely to be carbonized (Paragraph 11); a second layer obtained by forming a film consisting mainly iron on the first layer (Paragraphs 8 & 32); and a power supplying unit that supplies an electric power to the resistance welding electrode (See drawing 2).

13. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Mori N. (JP 07197275 A).

14. Regarding claim 14, Mori discloses a part manufacturing line for performing a part welding (Paragraphs 20 & 21); the resistance welding apparatus includes a resistance welding electrode including a first layer of a metal-carbide film that is formed by carbonizing of an electrode material on a surface of the resistance welding electrode by applying a voltage between a powder molding obtained by heating the powder

molding in a working fluid and the resistance welding electrode, to generate a pulse-like discharge in a working fluid (Paragraph 11); and a second layer obtained by forming a film consisting mainly iron on the first layer (Paragraphs 8 & 32); and a power supplying unit that supplies an electric power to the resistance welding electrode (See drawing 2).

15. Claims 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori N. (JP 07197275 A).

16. Regarding claim 15, Mori discloses a machine part that is used under a high-temperature condition (See drawing 2) (Paragraph 3), the machine part comprising: a first layer of a metal-carbide film that is formed by carbonizing of an electrode material on a surface of a resistance welding electrode by applying a voltage between a powder molding obtained by heating the powder molding in a working fluid and the resistance welding electrode, to generate a pulse-like discharge in a working fluid (Paragraph 11); and a second layer obtained by forming a film consisting mainly iron on the first layer (Paragraphs 8 & 32);

17. Regarding claims 16-17, Mori discloses wherein the resistance welding electrode consists mainly of copper (Paragraph 14); and wherein the second layer is formed on the first layer by chemical vapor deposition (Paragraph 8) or a method of generating the pulse-like discharge by applying the voltage between a powder molding obtained by molding a metal-based powder and the resistance welding electrode in the working fluid (Paragraph 11).

18. Claims 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori N. (JP 07197275 A).

19. Regarding claim 18, Mori discloses a method of manufacturing a machine part that is used under a high-temperature condition (See drawing 2) (Paragraph 3), the method comprising: forming a first film of metal carbide that is formed by carbonizing of an electrode material on a surface of a resistance welding electrode (Paragraph 1), the forming including disposing the resistance welding electrode in a working fluid (Paragraph 11); and applying a predetermined voltage between the resistance welding electrode and the powder molding, to generate a pulse-like discharge (Paragraph 26); and forming a second film consisting mainly iron on the first film (Paragraphs 8 & 32).

20. Regarding claim 19, Mori discloses wherein the second film is formed on the first film by chemical vapor deposition (Paragraph 8) or a discharge surface treatment method of generating the pulse-like discharge by applying the voltage between a powder molding obtained by molding a metal-based powder and the resistance welding electrode in the working fluid (Paragraph 11).

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Anderson (US Pat No. 5,066,845) discloses resistance welding electrode coated with ceramic layer. Kuwabara et al. (US Pat No. 5,611,945) disclose resistance welding electrode. And Okita et al. (US Pat No. 5,552,573) disclose resistance welding process for aluminum and aluminum alloy materials).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET DANG whose telephone number is (571)270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quang Thanh can be reached on (571)272-4982. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang D. Thanh/
Supervisory Patent Examiner, Art Unit 4118

/K.D/
Examiner Art Unit 4118